

PATENT

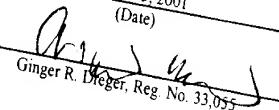
Case Docket No. UC053.001A
Date: April 3, 2001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Saxon et al.
Appl. No. : 09/770,169
Filed : January 26, 2001
For : IMMUNOGLOBULIN
CLASS SWITCH
RECOMBINATION
Examiner : Unknown
Group Art Unit : Unknown

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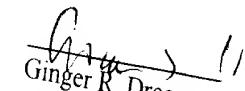
April 3, 2001
(Date)


Ginger R. Dreger, Reg. No. 33,055

TRANSMITTAL LETTER
ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231
ATTENTION: APPLICATION BRANCH

Dear Sir:

- Enclosed for filing in the above-identified application are:
- (X) An Information Disclosure Statement.
- (X) A PTO Form 1449 with 61 references.
- (X) The Commissioner is hereby authorized to charge any additional fees which may be required, credit any overpayment, to Account No. 11-1410. A duplicate copy of this sheet is enclo^se.
- (X) Return prepaid postcard.


Ginger R. Dreger
Registration
Attorne^y

UC053.001A

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Applicant : Saxon et al.) Group Art Unit Unknown
App. No. : 09/770,169)
Filed : January 26, 2001)
For : IMMUNOGLOBULIN CLASS)
SWITCH RECOMBINATION)
Examiner : Unknown)

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Enclosed is a form PTO-1449 listing references that are also enclosed. This Information Disclosure Statement is being filed within three months of the filing date of this application, and no fee is required in accordance with 37 C.F.R. § 1.97(b)(1).

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: April 13, 2001

By: Ginger R. Dreger
Ginger R. Dreger
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FORM PTO-1449	U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO UC053 001A	APPLICATION NO. 09/770,169
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		APPLICANT Saxon et al	
(USE SEVERAL SHEETS IF NECESSARY)		FILING DATE January 26, 2001	GROUP Unknown

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U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)

FOREIGN PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
						YES

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
1	Aruffo et al., "The CD40 Ligand , gp39, is Defective in Activated T Cells from patients with X-Linked Hyper-IgM Syndrome" <u>Cell</u> 72:291-300 (1993)
2	Ballantyne et al., "Antibody class Switch recombinase activity is B cell stage specific and functions stochastically in the absence of 'targeted accessibility' control" <u>Int. Immunol.</u> 7:963-974 (1997)
3	Borggrefe et al., "A B-cell-specific DNA Recombination Complex" <u>J. Biol. Chem.</u> 273:17025-17035 (1998)
4	Bottaro et al., "S region transcription per se promotes basal IgE class switch recombination but additional factors regulate the efficiency of the process" <u>EMBO J.</u> 13:665-674 (1994)
5	Casellas et al., "Ku80 is required for immunoglobulin isotype switching" <u>EMBO J.</u> 17:24-4-2411 (1998)
6	Cherry and Baltimore, "Chromatin remodeling directly activates V(D)J recombination" <u>Proc. Natl. Acad. Sci. USA</u> 96:10788-10793 (1999)
7	Coffman et al., "Mechanism and Regulation of Immunoglobulin Isotype Switching" <u>Adv. Immunol.</u> 54:229-270 (1993)
8	Cogne et al., "A Class Switch Control Region at the 3' End of the Immunoglobulin Heavy Chain Locus" <u>Cell</u> 77:737-747 (1994)
9	Daniels and Lieber, "RNA:DNA complex formation upon transcription of immunoglobulin switch regions: implications for the mechanism and regulation of class switch recombination" <u>Nucleic Acids Res.</u> 23:5006-5011 (1995)

EXAMINER	DATE CONSIDERED
*EXAMINER: INITIAL IF CITATION CONSIDERED. WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.	

FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT BY APPLICANT APR 15 2001 (USE SEVERAL SHEETS IF NECESSARY)	U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO UC053 001A	APPLICATION NO. 09/770,169
		APPLICANT Saxon et al.	
		FILING DATE January 26, 2001	GROUP Unknown

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
10	Daniels and Lieber, "Strand specificity in the transcriptional targeting of recombination at immunoglobulin switch sequences" <u>Proc. Natl. Acad Sci. USA</u> 92:5625-569 (1995)
11	Dunnick et al., "DNA sequences at immunoglobulin switch region recombination sites" <u>Nucleic Acids Res.</u> 21:365-372 (1993)
13	Esser and Radbruch, "Immunoglobulin Class Switching: Molecular and Cellular Analysis" <u>Annu. Rev. Immunol.</u> 8:717-735 (1990)
14	Gauchat et al., "Structure and Expression of Germline ε Transcripts in Human B Cells Induced by Interleukin 4 to Switch to IgE Production" <u>J. Exp. Med.</u> 172:463-473 (1990)
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16	Harriman et al., "Immunoglobulin Class Switch Recombination" <u>Annu. Rev. Immunol.</u> 11:361-384 (1993)
17	Harriman et al. "IgA Class Switch in Iα Exon-deficient Mice" <u>J. Clin. Invest.</u> 97:477-487 (1996)
18	Hu et al. "Regulation of Germline Promoters by the Two Human Ig Heavy Chain 3' α Enhancers" <u>J. Immunol.</u> 164:6380-6386 (2000)
19	Jack et al., "Looping out and Deletion Mechanism for the Immunoglobulin Heavy-Chain Class Switch" <u>Proc. Natl. Acad. Sci. USA</u> 85:1581-1585 (1988)
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21	Kawabe et al., "The Immune Responses in CD40-Deficient Mice: Impaired Immunoglobulin Class Switching and Germinal Center Formation" <u>Immunity</u> 1:167-178 (1994)
22	Kinoshita et al., "Target Specificity of Immunoglobulin Class Switch Recombination Is Not Determined by Nucleotide Sequences of S Regions" <u>Immunity</u> 9:849-858 (1998)
23	Laffan and Luzzatto, "Anomalous Rearrangements of the Immunoglobulin Heavy Chain Genes in human Leukemias Support the Loop-out Mechanism of Class Switch" <u>J. Clin. Invest.</u> 90:2299-2307 (1992)
24	Leung and Maizels, "Regulation and Targeting of Recombination in Extrachromosomal Substrates Carrying Immunoglobulin Switch Region Sequences" <u>Mol. Cell. Biol.</u> 14(2):1450-1458 (1994)
25	Leung and Maizels, "Transcriptional regulatory elements stimulate recombination in extrachromosomal substrates carrying immunoglobulin switch-region sequences" <u>Proc. Natl. Acad. Sci. USA</u> 89:4154-4158 (1992)
26	Li et al., "Developmental Specificity of Immunoglobulin Heavy Chain Switch Region Recombination Activities" <u>Mol. Immunol.</u> 34:201-208 (1997)

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FORM PTO-1449 APR 3 2001 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (USE SEVERAL SHEETS IF NECESSARY)	U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO. UC053 001A	APPLICATION NO. 09/770,169
		APPLICANT Saxon et al	
		FILING DATE January 26, 2001	GROUP Unknown

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
27	Liu et al., "Within Germinal Centers, Isotype Switching of Immunoglobulin Genes Occurs after the Onset of Somatic Mutation" <u>Immunity</u> 4:241-250 (1996)
28	Lopez et al., "Promotion of double-strand break repair by human nuclear extracts preferentially involves recombination with intact homologous DNA" <u>Nucleic Acids Res.</u> 15:6813-6826 (1987)
29	Lopez et al., "Directional recombination is initiated at a double strand break in human nuclear extracts" <u>Nucleic Acids Res.</u> 20:501-506 (1992)
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31	Manis et al., "Ku70 Is Required for Late B Cell Development and Immunoglobulin Heavy Chain Class Switching" <u>J. Exp. Med.</u> 187:2081-2088 (1998)
32	Marcu et al., "A model for the molecular requirements of immunoglobulin heavy chain class switching" <u>Nature</u> 298:87-89 (1982)
33	Matsuoka et al., "Switch Circular DNA Formed in Cytokine-Treated Mouse Splenocytes: Evidence for Intramolecular DNA Deletion in Immunoglobulin Class Switching" <u>Cell</u> 62:135-144 (1990)
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40	Qiu et al., "Iα exon-replacement mice synthesize a spliced HPRT-Cα transcript which may explain their ability to switch to IgA. Inhibition of switching to IgG in these mice" <u>Int. Immunol.</u> 11:37-45 (1999)
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EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
42	Rolink et al., "The SCID but Not the RAG-2 Gene Product Is Required for μ -Se Heavy Chain Class Switching" <u>Immunity</u> 5:319-330 (1996)
43	Sewell et al., "Molecular cloning of the human T-lymphocyte surface CD2 (T11) antigen" <u>Proc. Natl. Acad. Sci. USA</u> 83:8718-8722 (1986)
44	Snapper et al., "The Immunoglobulin Class Switch: Beyond "Accessibility"" <u>Immunity</u> 6:217-223 (1997)
45	Stavnezer, J., "Molecular Processes that regulate Class Switching" <u>Current Topics in Microbiol. & Immunol.</u> 245:127-168 (2000)
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50	Takahashi et al., "Structure of Human Immunoglobulin Gamma Genes: Implications for Evolution of a Gene Family" <u>Cell</u> 29:671-679 (1982)
51	Thacker et al., "A mechanism for deletion formation in DNA by human cell extracts: the involvement of short sequence repeats" <u>Nucleic Acids Res.</u> 20:6183-6199 (1992)
52	Tsukamoto et al., "Silencing factors participate in DNA repair and recombination in <u>Saccharomyces cerevisiae</u> " <u>Nature</u> 388:900-903 (1997)
53	Von Schwedler et al., "Circular DNA is a product of the immunoglobulin class switch rearrangement" <u>Nature</u> 345:452-455 (1990)
54	Xu et al., "Mice Deficient for the CD40 Ligand" <u>Immunity</u> 1:423-431 (1994)
55	Xu et al., "Replacement of germ-line ϵ promoter by gene targeting alters control of immunoglobulin heavy chain class switching" <u>Proc. Natl. Acad. Sci. USA</u> 90:3705-3709 (1993)
56	Zelazowski et al., "Regulation of Ku Expression in Normal Murine B Cells by Stimuli That Promote Switch Recombination" <u>J. Immunol.</u> 159:2559-2562 (1997)
57	Zhang and Cheah, "Cell-Free Recombination of Immunoglobulin Switch-Region DNA with Nuclear Extracts" <u>Clin. Immunol.</u> 94:140-151 (2000)
58	Zhang et al., "A selective defect in IgG2b switching as a result targeted mutation of the $1\gamma 2b$ promoter and exon" <u>EMBO J.</u> 12:3529-3537 (1993)

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FORM PTO-1449 <i>6/15</i>	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO UC053 001A	APPLICATION NO. 09/770,169
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EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
59	Zhang et al., "Switch Circles from IL-4-Directed ε Class Switching from Human B Lymphocytes" <u>J. Immunol.</u> 152:3427-3435 (1994)
60	Zhang et al., "Secondary Deletional Recombination of Rearranged Switch Region in Ig Isotype-Switched B Cells" <u>J. Immunol.</u> 154:2237-2247 (1995)
61	Zhang et al., <i>Regulation of class switch recombination of the immunoglobulin heavy chain genes</i> . In: <u>Immunoglobulin Genes</u> , Second Edition, T. Honjo and F.W. Alt, eds.(1995), pp 235-265

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